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BS 6057 : Part 3 : Section 3.13 : 1984
ISO 2005-1974

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British Standard

Rubber latices

Part 3. Methods of test

Section 3.13 Determination of sludge content of natural rubber latices

[ISO title: Natural rubber latex — Determination of sludge content]

Latex de caoutchouc

Partie 3. Méthodes d'essai

Section 3.13 Détermination de la teneur en sédiment du latex de caoutchouc naturel

Kautschuklatex

Teil 3. Prüfverfahren

Abschnitt 3.13 Bestimmung des Schlammgehaltes in Naturkautschuklatex

NOTE. Attention is drawn to BS 6057 : Part 0 'General introduction', issued separately.

National foreword

This Section of BS 6057 is identical with ISO 2005-1974 'Natural rubber latex — Determination of sludge content' published by the International Organization for Standardization (ISO) and confirmed in 1979. It supersedes method 10 of BS 1672 : 1972 'Methods of testing natural rubber latices', to which it is technically equivalent.

Terminology and conventions. The text of the international standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'British Standard'.

Cross-reference. The Technical Committee has reviewed the provisions of ISO 123-1974, to which reference is made in clauses 2 and 6, and has decided that they are acceptable for use in conjunction with this standard. Method 2 of BS 1672 : 1972 is related to ISO 123-1974, and will eventually be replaced by BS 6057 : Part 2 'Sampling' (in course of preparation); it is intended that BS 6057 : Part 2 will be identical with a revision of ISO 123 (also in course of preparation).

Additional information. Water complying with BS 3978 'Water for laboratory use' is suitable for use in the preparation of the ammonia-alcohol solution (see clause 4).

Compliance with a British Standard does not of itself confer immunity from legal obligations.



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1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the sludge content of natural rubber latex which contains preservative agents and which has been submitted to some type of concentration process.

The method is not necessarily suitable for latices from natural sources other than *Hevea brasiliensis*.

It is not suitable for compounded latex or vulcanized latex.

2 REFERENCE

ISO 123, *Rubber latex — Sampling*.

3 PRINCIPLE

Centrifuging of the latex and repeated washing of the resultant sludge with ammonia-alcohol solution. Drying of the sludge to constant mass.

4 REAGENT

Ammonia-alcohol solution of the following composition :

- Ammonium hydroxide, ρ $0,90 \pm 0,02$ g/ml 10 ml
- Ethanol, 95 % (V/V) minimum purity 340 ml
- Water 1 000 ml

The ammonium hydroxide shall be of recognized analytical reagent quality and the water used shall be distilled or of equivalent purity.

5 APPARATUS

Centrifuge producing a mean acceleration of approximately $12\,000\text{ m/s}^2$ with two 50 ml conical centrifuge tubes.

6 SAMPLING

Carry out the sampling in accordance with one of the methods specified in ISO 123.

7 PROCEDURE

Carry out the determination in duplicate, using the two centrifuge tubes to counterbalance each other. Into each tube weigh, to the nearest 0,1 g, between 40 and 45 g of latex. Treat each tube as follows :

Cover the end of the tube, to prevent formation of a surface skin during centrifuging, and centrifuge for 20 min at a mean acceleration of approximately $12\,000\text{ m/s}^2$. Scoop off most of the cream layer and, using a pipette with an end opening of about 2 mm, draw off the supernatant latex to approximately 10 mm above the top of the sludge.

Fill the tube to the top with the ammonia-alcohol solution, recentrifuge for 25 min, and pipette off the supernatant liquid to approximately 10 mm above the top of the sludge. Repeat this procedure until the supernatant liquid is clear after centrifuging.

Decant the supernatant solution to the 10 mm mark and transfer the sludge quantitatively, using some of the ammonia-alcohol solution, to a tared heat-resistant beaker of about 200 ml capacity. Evaporate to a low level and then dry at $70 \pm 2^\circ\text{C}$ until the loss in mass is less than 1 mg during a period of 30 min.

8 EXPRESSION OF RESULTS

The sludge content is given, as a percentage by mass, by the formula :

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of dried sludge.

A difference of 0,002 % between the two results is not considered significant.

9 TEST REPORT

The test report shall include the following particulars :

- a) the reference of the method used;
- b) the results and the method of expression used;
- c) any unusual features noted during the determination;
- d) any operation not included in this International Standard, or regarded as optional.

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Publications referred to

See national foreword.

BS 6057 : Part 3 : Section 3.13 : 1984 ISO 2005-1974

This British Standard, having been prepared under the direction of the Rubber Standards Committee, was published under the authority of the Board of BSI and comes into effect on 31 January 1984.

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The Committees responsible for this British Standard are shown in Part 0.

The following BSI references relate to the work on this standard:

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Amendments issued since publication

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